IN THE CLAIMS:

1. (Currently Amended) A recoil starter, comprising:

a casing having a reel shaft formed therein and adapted to be mounted to an engine;

a rope reel rotatably supported on said reel shaft and provided on an outer periphery thereof with a drum portion around which a recoil rope is wound;

a recoil spring for rotationally urging said rope reel in a direction in which said recoil rope is rewound;

a cam engageable, via a clutch mechanism, with a drive pulley coupled to the engine, for transmitting a rotation thereof to said drive pulley; ~~and~~

a cushioning and force accumulating means interposed between said rope reel and said cam, a rotational force of said rope reel accumulated in said cushioning and force accumulating means being transmitted via said cam to said drive pulley, to thereby start the engine; ~~wherein~~ and

a ratchet mechanism is provided between said rope reel and said cam such that, when said rope reel is rotated in an engine starting direction, said ratchet mechanism uncouples said rope reel and said cam from each other, and when said rope reel is rotated in the direction opposite to the engine starting direction by the rotational force accumulated in said recoil spring, said ratchet mechanism couples said rope reel and said cam to each other so that said cam is rotated together with said rope reel in said opposite direction.

2. (Original) The recoil starter according to claim 1, wherein said clutch mechanism comprises a centrifugal clutch disposed on said drive pulley and provided with a centrifugal ratchet that operates to disengage from said cam by a centrifugal force.

3. (Original) The recoil starter according to claim 1, wherein said clutch mechanism comprises a one-way clutch provided with a ratchet that is provided on said cam so as to engage with or disengage from an engagement portion formed on said drive pulley.

4. (Original) The recoil starter according to claim 1, wherein said cushioning and force accumulating means comprises a spiral spring that has one end thereof held on said rope reel and the other end thereof held on said cam.

5. (Original) The recoil starter according to claim 2, wherein said cushioning and force accumulating means comprises a spiral spring that has one end thereof held on said rope reel and the other end thereof held on said cam.

6. (Original) The recoil starter according to claim 3, wherein said cushioning and force accumulating means comprises a spiral spring that has one end thereof held on said rope reel and the other end thereof held on said cam.

7. (Original) The recoil starter according to claim 1, wherein said ratchet mechanism includes a ratchet member having a ratchet pawl integrally formed thereon to be engageable with an engagement member formed on an outer periphery of said cam, and an operating member having an operating piece for operating said ratchet member to rotate it, said

ratchet member and said operating member each being pivotally supported on a side surface of an outer peripheral portion of said rope reel;

said operating piece is formed on said operating member so as to pivotally rotate said operating member by engaging with one of cutout grooves formed on an inner circumference surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said operating piece of said operating member engages with one of said cutout grooves, to thereby pivotally rotate said operating member in a direction in which said ratchet pawl is disengaged from said engagement member; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said operating piece of said operating member engages with one of said cutout grooves, to thereby pivotally rotate said operating member in a direction in which said ratchet pawl of said ratchet member is engaged with said engagement member of said cam.

8. (Original) The recoil starter according to claim 2, wherein said ratchet mechanism includes a ratchet member having a ratchet pawl integrally formed thereon to be engageable with an engagement member formed on an outer periphery of said cam, and an operating member having an operating piece for operating said ratchet member to rotate it, said ratchet member and said operating member each being pivotally supported on a side surface of an outer peripheral portion of said rope reel;

said operating piece is formed on said operating member so as to pivotally rotate said operating member by engaging with one of cutout grooves formed on an inner circumference surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said operating piece of said operating member engages with one of said cutout grooves, to thereby pivotally rotate said operating member in a direction in which said ratchet pawl is disengaged from said engagement member; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said operating piece of said operating member engages with one of said cutout grooves, to thereby pivotally rotate said operating member in a direction in which said ratchet pawl of said ratchet member is engaged with said engagement member of said cam.

9. (Original) The recoil starter according to claim 3, wherein said ratchet mechanism includes a ratchet member having a ratchet pawl integrally formed thereon to be engageable with an engagement member formed on an outer periphery of said cam, and an operating member having an operating piece for operating said ratchet member to rotate it, said ratchet member and said operating member each being pivotally supported on a side surface of an outer peripheral portion of said rope reel;

said operating piece is formed on said operating member so as to pivotally rotate said operating member by engaging with one of cutout grooves formed on an inner circumference surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said operating piece of said operating member engages with one of said cutout grooves, to thereby pivotally rotate said operating member in a direction in which said ratchet pawl is disengaged from said engagement member; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said operating piece of said operating member engages with one of said cutout grooves, to thereby pivotally rotate said operating member in a direction in which said ratchet pawl of said ratchet member is engaged with said engagement member of said cam.

10. (Original) The recoil starter according to claim 4, wherein said ratchet mechanism includes a ratchet member having a ratchet pawl integrally formed thereon to be engageable with an engagement member formed on an outer periphery of said cam, and an operating member having an operating piece for operating said ratchet member to rotate it, said ratchet member and said operating member each being pivotally supported on a side surface of an outer peripheral portion of said rope reel;

said operating piece is formed on said operating member so as to pivotally rotate said operating member by engaging with one of cutout grooves formed on an inner circumference surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said operating piece of said operating member engages with one of said cutout grooves, to thereby pivotally rotate said operating member in a direction in which said ratchet pawl is disengaged from said engagement member; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said operating piece of said operating member engages with one of said cutout grooves, to thereby pivotally rotate said operating member in a direction in which said ratchet pawl of said ratchet member is engaged with said engagement member of said cam.

11. (Original) The recoil starter according to claim 1, wherein said ratchet mechanism comprises a ratchet member swingably supported on a side surface of an outer peripheral portion of said rope reel and provided with a ratchet pawl engageable with an engagement member formed on an outer periphery of said cam, and a biasing means for biasing said ratchet member such that said ratchet member comes into contact with and slides on an inner circumferential surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said ratchet member swings due to friction between said ratchet member and said inner circumferential surface of said casing such that said ratchet pawl is disengaged from said engagement member of said cam; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said ratchet member swings due to the friction between said ratchet member and said inner circumferential surface of said casing such that said ratchet pawl is engaged with said engagement member of said cam.

12. (Original) The recoil starter according to claim 2, wherein said ratchet mechanism comprises a ratchet member swingably supported on a side surface of an outer peripheral portion of said rope reel and provided with a ratchet pawl engageable with an engagement member formed on an outer periphery of said cam, and a biasing means for biasing said ratchet member such that said ratchet member comes into contact with and slides on an inner circumferential surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said ratchet member swings due to friction between said ratchet member and said inner circumferential surface of said casing such that said ratchet pawl is disengaged from said engagement member of said cam; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said ratchet member swings due to the friction between said ratchet member and said inner circumferential surface of said casing such that said ratchet pawl is engaged with said engagement member of said cam.

13. (Original) The recoil starter according to claim 3, wherein said ratchet mechanism comprises a ratchet member swingably supported on a side surface of an outer peripheral portion of said rope reel and provided with a ratchet pawl engageable with an engagement member formed on an outer periphery of said cam, and a biasing means for biasing said ratchet member such that said ratchet member comes into contact with and slides on an inner circumferential surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said ratchet member swings due to friction between said ratchet member and said inner circumferential surface of said casing such that said ratchet pawl is disengaged from said engagement member of said cam; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said ratchet member swings due to the friction between said ratchet member and said inner circumferential surface of said casing such that said ratchet pawl is engaged with said engagement member of said cam.

14. (Original) The recoil starter according to claim 4, wherein said ratchet mechanism comprises a ratchet member swingably supported on a side surface of an outer peripheral portion of said rope reel and provided with a ratchet pawl engageable with an engagement member formed on an outer periphery of said cam, and a biasing means for biasing

said ratchet member such that said ratchet member comes into contact with and slides on an inner circumferential surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said ratchet member swings due to friction between said ratchet member and said inner circumferential surface of said casing such that said ratchet pawl is disengaged from said engagement member of said cam; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said ratchet member swings due to the friction between said ratchet member and said inner circumferential surface of said casing such that said ratchet pawl is engaged with said engagement member of said cam.

15. (Original) The recoil starter according to claim 1, wherein said ratchet mechanism comprises a ratchet member pivotally supported on a side surface of said rope reel via a pivot and provided at one end thereof with a ratchet pawl engageable with an engagement member formed on an outer periphery of said cam, and a biasing spring piece having a curved shape and supported at opposite ends thereof on said ratchet member while a curved portion of said biasing spring piece is kept in sliding contact with an inner circumferential surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said ratchet pawl is disengaged from said engagement member of said cam due to a sliding resistance between said curved portion of said biasing spring piece and said inner circumferential surface of said casing; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said ratchet member is pivotally rotated about said pivot due to the sliding resistance

between said curved portion of said biasing spring piece and said inner circumferential surface of said casing such that said ratchet pawl is engaged with said engagement member of said cam.

16. (Original) The recoil starter according to claim 2, wherein said ratchet mechanism comprises a ratchet member pivotally supported on a side surface of said rope reel via a pivot and provided at one end thereof with a ratchet pawl engageable with an engagement member formed on an outer periphery of said cam, and a biasing spring piece having a curved shape and supported at opposite ends thereof on said ratchet member while a curved portion of said biasing spring piece is kept in sliding contact with an inner circumferential surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said ratchet pawl is disengaged from said engagement member of said cam due to a sliding resistance between said curved portion of said biasing spring piece and said inner circumferential surface of said casing; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said ratchet member is pivotally rotated about said pivot due to the sliding resistance between said curved portion of said biasing spring piece and said inner circumferential surface of said casing such that said ratchet pawl is engaged with said engagement member of said cam.

17. (Original) The recoil starter according to claim 3, wherein said ratchet mechanism comprises a ratchet member pivotally supported on a side surface of said rope reel via a pivot and provided at one end thereof with a ratchet pawl engageable with an engagement member formed on an outer periphery of said cam, and a biasing spring piece having a curved shape and supported at opposite ends thereof on said ratchet member while a curved portion of

said biasing spring piece is kept in sliding contact with an inner circumferential surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said ratchet pawl is disengaged from said engagement member of said cam due to a sliding resistance between said curved portion of said biasing spring piece and said inner circumferential surface of said casing; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said ratchet member is pivotally rotated about said pivot due to the sliding resistance between said curved portion of said biasing spring piece and said inner circumferential surface of said casing such that said ratchet pawl is engaged with said engagement member of said cam.

18. (Original) The recoil starter according to claim 4, wherein said ratchet mechanism comprises a ratchet member pivotally supported on a side surface of said rope reel via a pivot and provided at one end thereof with a ratchet pawl engageable with an engagement member formed on an outer periphery of said cam, and a biasing spring piece having a curved shape and supported at opposite ends thereof on said ratchet member while a curved portion of said biasing spring piece is kept in sliding contact with an inner circumferential surface of an outer wall of said casing;

when said rope reel is rotated in the engine starting direction, said ratchet pawl is disengaged from said engagement member of said cam due to a sliding resistance between said curved portion of said biasing spring piece and said inner circumferential surface of said casing; and

when said rope reel is rotated in the direction in which said recoil rope is rewound, said ratchet member is pivotally rotated about said pivot due to the sliding resistance between said curved portion of said biasing spring piece and said inner circumferential surface of said casing such that said ratchet pawl is engaged with said engagement member of said cam.

19. (New) A recoil starter for use on a hand started engine, comprising:

a casing having a reel shaft formed therein and adapted to be mounted to an engine;

a rope reel rotatably supported on said reel shaft and provided on an outer periphery thereof with a drum portion around which a recoil rope is wound;

a recoil spring for rotationally urging said rope reel in a direction in which said recoil rope is rewound;

a cam engageable, via a clutch mechanism, with a drive pulley coupled to the engine, for transmitting a rotation thereof to said drive pulley;

a cushioning and force accumulating unit interposed between said rope reel and said cam, for storing a rotational force transmitted via said cam by said drive pulley, to assist in starting the engine; and

a ratchet mechanism is provided between said rope reel and said cam such that, when said rope reel is rotated in an engine starting direction, said ratchet mechanism uncouples said rope reel and said cam from each other, and when said rope reel is rotated in the direction opposite to the engine starting direction by the rotational force accumulated in said recoil spring, said ratchet mechanism couples said rope reel and said cam to each other so that said cam is rotated together with said rope reel in said opposite direction.

20. (New) The recoil starter according to claim 19 wherein its ratchet mechanism includes an integral ratchet panel that can pivot into and out of engagement with an engagement member operatively connected to the cam and the cushioning and force accumulating unit includes a spiral spring operatively connected to the rope reel and the cam.